Chapter 6 PROJECT ALTERNATIVES

The CEQA statutes require an EIR to describe and evaluate a range of reasonable alternatives to a proposed project, or alternatives to the location of a proposed project. The purpose of the alternatives analysis is to explore ways that most of the basic objectives of a proposed project could be attained while reducing or avoiding significant environmental impacts of the project as proposed. This approach is intended to foster informed decision-making and public participation in the environmental process.

This chapter evaluates alternatives to the Master Plans and examines the potential environmental impacts associated with each alternative. The State CEQA Guidelines indicate that EIRs are required to evaluate a "…range of reasonable alternatives to the project, or to the location of the project, which could feasibly attain the basic objectives of the project" (Section 15126.6[a] State CEQA Guidelines). According to the Guidelines, not every conceivable alternative must be addressed, nor do infeasible alternatives need be considered. Section 15126.6 of the CEQA Guidelines lists the factors that may be taken into account when addressing the feasibility of alternatives: site suitability, economic viability, availability of infrastructure, other plans or regulatory limitations, and jurisdictional boundaries. The Guidelines also state that the discussion of alternatives should focus on "…alternatives capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives could impede to some degree the attainment of the project objectives or would be more costly" (Section 15166.6[b] State CEQA Guidelines). CEQA further directs that "…the significant effects of the alternatives shall be discussed, but in less detail than the significant effects of the project as proposed" (Section 15126.6[d] State CEQA Guidelines).

Section 6.2 analyzes two alternatives that would potentially avoid or reduce significant impacts associated with implementation of the Master Plans: the No Project Alternative and the Reduced Footprint Alternative.

6.1 Master Plan Objectives

Each of the Master Plans includes a list of objectives that clarify the intent of the implementation of the plan, as stated in Section 2.1 (Project Objectives) of this EIR. The objectives of each the Master Plans are as follows.

Sewer Master Plan

The intent of the Sewer Master Plan is to provide adequate sewer service for Carlsbad through buildout of the sewer service area, which is anticipated to occur in 2035. The objectives of the plan are to:

- Perform capacity analyses of the existing and future sewer collection system
- Recommend a long-term CIP for improvement of existing wastewater collection and treatment facilities to meet future demand

Water Master Plan

The intent of the Water Master Plan is to provide adequate water service for the CMWD through buildout of the service area, which is anticipated to occur in 2035. The CMWD proposes to implement the Water Master Plan to:

- Address current water supply issues
- Evaluate and meet future demands
- Recommend CIP projects for continued reliable water service through service area buildout in accordance with the Carlsbad Growth Management Plan

Recycled Water Master Plan

The intent of Recycled Water Master Plan update is to guide the CMWD as it develops and expands the current recycled water distribution system to buildout, which is anticipated to occur in 2035. CMWD wants to maximize the use of recycled water as this is currently the lowest cost water supply source. Specifically, CMWD proposes to implement the Recycled Water Master Plan to:

- Maximize recycled water use in and around CMWD
- Find cost effective system expansion opportunities
- Optimize the existing and future system configuration
- Identify CIP projects to meet future demand for recycled water

6.2 Alternatives Analyzed

This section presents an evaluation of two alternatives to the proposed Master Plans: No Project Alternative and Reduced Footprint Alternative. For each alternative, a brief description is included, followed by a summary impact analysis relative to the Master Plans, and an assessment of the degree to which the alternative would meet the goals and objectives of the Master Plans. Table 6-1 provides a summary of the impacts of the alternatives compared to the Master Plans. A summary of how each alternative fulfills each of the Master Plan objectives is provided in Table 6-2. Additionally, alternatives may be available at the specific CIP project level that would be analyzed during the appropriate CEQA review for such projects, as discussed Section 6.3.

Table 6-1 Summary of Analysis for Alternatives to the Master Plans

Issue Area	Proposed Master Plans		Alternatives	
	Without Mitigation	With Mitigation	No Project Alternative	Reduced Footprint Alternative
4.1 Aesthetics				
Visual Character and Quality	LS	LS	=	=
Scenic Vistas	LS	LS	=	=
Scenic Resources	LS	LS	=	=
Lighting and Glare	LS	LS	=	=
4.2 Air Quality				
Consistency with Applicable Air Quality Plan	LS	LS	=	=
Consistency with Air Quality Standards	LS	LS	=	=
Sensitive Receptors	LS	LS	=	=
Objectionable Odors	LS	LS	=	=
4.3 Biological Resources				
Candidate, Sensitive, or Special Status Species	PS	LS	▼	■
Riparian Habitat and Other Sensitive Natural Communities	PS	LS	▼	■
Wetlands	PS	LS	▼	■
Wildlife Corridors	LS	LS	=	=
Local Policies or Ordinances	LS	LS	=	=
Habitat Conservation Plans	LS	LS	=	=
4.4 Cultural and Paleontological Resources				
Historical and Archaeological Resources	PS	LS	▼	■
Human Remains	LS	LS	=	=
Paleontological Resources	PS	LS	▼	■
4.5 Energy				
Energy Consumption	LS	LS	=	=
4.6 Geology and Soils				
Exposure to Seismic and Geologic Hazards	LS	LS	=	=
Soil Erosion or Topsoil Loss	LS	LS	=	=
Septic Systems	LS	LS	=	=
4.7 Greenhouse Gas Emissions				
Direct and Indirect Generation of GHG and Consistency with Applicable Plans Adopted for Reducing GHG	LS	LS	=	=
4.8 Hazards and Hazardous Materials				
Transport, Use, and Disposal of Hazardous Materials and Accidental Releases	LS	LS	=	=
Listed Hazardous Materials Sites	LS	LS	=	=
Emergency Response and Evacuation Plans	LS	LS	=	=
Aircraft Hazards	LS	LS	=	=
Wildland Fires	LS	LS	=	=

Table 6-1 Summary of Analysis for Alternatives to the Master Plans (continued)

Issue Area	Proposed Master Plans		Alternatives	
	Without Mitigation	With Mitigation	No Project Alternative	Reduced Footprint Alternative
4.9 Hydrology and Water Quality				
Water Quality	LS	LS	=	=
Alteration of Drainage Patterns	LS	LS	=	=
Mudflows, Dam Inundation, Tsunamis and Seiches	LS	LS	=	=
Flood Hazard Areas	LS	LS	=	=
Groundwater	LS	LS	=	=
4.10 Land Use and Planning				
Land Use Incompatibilities and Conflicts with Land Use Plans and Biological Conservation Plans	LS	LS	=	=
Physically Divide an Established Community	LS	LS	=	=
4.11 Noise				
Substantial Permanent Increase in Ambient Noise Levels	LS	LS	=	=
Temporary Increases in Ambient Noise	LS	LS	=	=
Excessive Groundborne Vibration or Noise	LS	LS	=	=
Aircraft Noise	LS	LS	=	=
4.12 Transportation/Traffic				
Traffic and LOS Standards	LS	LS	=	=
Air Traffic	LS	LS	=	=
Increase in Traffic Hazards	LS	LS	=	=
Alternative Transportation	LS	LS	=	=
Emergency Access	LS	LS	=	=

▲ Alternative would result in an increased level of impact when compared to the proposed Master Plans
= Alternative would result in a similar level of impact to issue when compared to proposed Master Plans
■ Alternative would result in a reduced level of impact when compared to the proposed Master Plans, but impacts would remain significant without mitigation.
▼ Alternative would result in a reduced level of impact to issue when compared to proposed Master Plans and would not require mitigation.
PS = Potentially significant impact; LS = Less than significant impact

Table 6-2 Summary of Master Plan Objectives

Master Plan Objectives	No Project Alternative	Reduced Footprint Alternative
Sewer Master Plan		
Perform capacity analyses of the existing and future sewer collection system	No	Yes
Recommend a long-term CIP for improvement of existing wastewater collection and treatment facilities to meet future demand	No	No
Water Master Plan		
Address current water supply issues	No	Partial
Evaluate and meet future demands	No	Partial
Recommend CIP projects for continued reliable water service through service area buildout in accordance with the Carlsbad Growth Management Plan	No	No
Recycled Water Master Plan		
Maximize recycled water use in and around CMWD	No	No
Find cost effective system expansion opportunities	No	Partial
Optimize the existing and future system configuration	No	No
Identify CIP projects to meet future demand for recycled water	No	No

6.2.1 No Project Alternative

Section 15126.6(e) of the CEQA Guidelines requires the No Project Alternative to be addressed in an EIR. Under this alternative, the Master Plans would not be adopted and none of the proposed CIP projects would be constructed at this time. The existing 2003 Sewer Master Plan, 2003 Water Master Plan, and 1997 Recycled Water Master Plan would remain the planning documents for the City and CMWD. The No Project Alternative would not necessarily preclude the future implementation of individual projects listed in the Master Plans (individual infrastructure projects would still be required to undergo CEQA environmental review).

Impact Analysis

The No Project Alternative would avoid all of the potentially significant environmental impacts identified for the Master Plans because no proposed CIP projects would be constructed at this time and the existing adopted Sewer, Water, and Recycled Water Master Plans would remain the planning documents for the City and CMWD. Compared to the proposed Master Plans, all currently identified impacts related to biology, cultural resources, and paleontological resources as a result of the Master Plans would be avoided under the No Project Alternative.

This conclusion assumes, however, that none of the currently proposed CIP projects would be constructed. In reality, the No Project Alternative does not preclude the future construction of CIP projects. Although future infrastructure projects would still be required to undergo individual environmental review, the impacts would be evaluated on a project-by-project basis and the potential cumulative impact associated with all of the CIP projects within the Master Plans may not be addressed adequately. In other words, cumulative environmental impacts could potentially be addressed in a "piece-meal" manner, which may result in under-estimating the total extent of cumulative

environmental impacts in comparison to evaluating all of the Master Plans at the Program EIR level. In addition, this approach restricts the City's and CMWD's ability to properly plan for projected growth and to design infrastructure accordingly. So while new and upgraded infrastructure projects would still occur under this alternative, they would be implemented in a more disorganized, less efficient, and likely more costly manner.

Ability to Accomplish Objectives of Master Plans

The No Project Alternative would not meet any of the objectives identified for the Master Plans. This alternative would hinder City's and CMWD's ability to meet the future water demands of its service areas because water and recycled water demands and wastewater flows would not be updated to reflect future demand, CIP facilities would not be properly sized for future demand, and wastewater capacity needs would not be updated to reflect future sewer flows.

6.2.2 Reduced Footprint Alternative

The Reduced Footprint Alternative would reduce the footprint of disturbed area that would occur as a result of the implementation of the Master Plans by eliminating the CIP projects that were determined to result in direct impacts to sensitive biological resources. These CIP projects include the following:

- **Sewer CIP Projects:** SR-9, SR-19, SR-22, SR-23, N-3, and N-9
- **Water CIP Projects:** 10, 17, 47, 48, and 55
- **Recycled Water CIP Projects:** ES7 and ES8

Under the Reduced Footprint Alternative, each of these proposed pipelines and access road projects would be eliminated from the Master Plans' CIPs to avoid direct impacts to biological resources. The reduction in the development footprint would also result in a reduction in sewer, water, and recycled water distribution; water pumping capacity; and recycled water treatment. Although this alternative would have a reduced overall footprint in comparison to the proposed Master Plans, it would involve similar types of uses and construction methods. All of the project design features proposed in Section 2.6.2 (Project Design Features) would be implemented under this alternative. The Reduced Footprint Alternative's impacts compared to the Master Plans are discussed below.

Impact Analysis

Aesthetics

Similar to the proposed Master Plans, impacts related to visual character and quality, scenic vistas, scenic resources, and lighting and glare would be less than significant under the Reduced Project Alternative because the CIP projects would be located underground or on a site containing existing infrastructure, and do not include any new sources of light and glare. Impacts would be less than significant without mitigation.

Air Quality

The Reduced Footprint Alternative would result in less construction compared to the proposed Master Plans because several CIP projects would not be constructed. Operational impacts would also be slightly

reduced because Sewer CIP Projects SR-19, SR-22, and SR-23, which would require new landscape maintenance, would be eliminated under this alternative. Therefore, this alternative would result in slightly reduced air pollutant emissions compared to the Master Plans. Similar to the proposed Master Plans, impacts associated with compliance with air quality plans and sensitive receptors would be less than significant. Odor impacts would be similar to the proposed project and would be less than significant with routine maintenance.

Biological Resources

The Reduced Footprint Alternative would result in reduced direct impacts to biological resources compared to the proposed CIP projects because the CIP projects that would directly impact sensitive biological resources would be eliminated. When compared to the proposed Master Plans, biological resource impacts for this alternative would be reduced, but indirect biological impacts would still potentially occur from construction and operation activities. For example, although decreasing the development footprint of the CIP projects would decrease the amount of California gnatcatcher habitat that may be removed to construct the facility, indirect impacts from noise from construction activities would still be expected to occur. Indirect impacts would be reduced compared to the CIP projects in the proposed Master Plans because less construction would be necessary; however, some mitigation would still be required. Similar to the Master Plans, impacts to sensitive species, habitats, and wetlands would be potentially significant, requiring mitigation. Impacts related to wildlife corridors, local policies, and habitat management plans would be less than significant, similar to the proposed project.

Cultural and Paleontological Resources

Similar to the proposed Master Plans, construction activities associated with the CIP projects under this alternative, such as grading, trenching, and clearing have the potential to result in significant impacts to historical resources or archeological resources within the individual CIP project area. Impacts would be slightly reduced because less construction would occur; however, mitigation would still be required. Similar to the proposed Master Plans, impacts related to human remains would be less than significant assuming compliance with existing regulations. Impacts related to paleontology would be slightly reduced because Sewer CIP Project N-9 and Water CIP Projects 10 and 17 in high paleontological sensitivity areas would be eliminated. However, mitigation would be required for the remaining CIP projects in sensitive areas.

Energy

The Reduced Footprint Alternative would result in less energy consumption compared to the proposed Master Plans because less construction would take place due to a reduction in development footprints. A reduction in the amount of construction required for CIP projects would result in less fuel consumption. Additionally, Recycled Water CIP Projects P80 and P81, which would expand the Carlsbad Water Recycling Facility, would not occur under this alternative, which would reduce energy consumption associated with operation compared to the currently proposed Recycled Water Master Plan. Therefore, the Reduced Footprint Alternative would result in less energy usage than the Master Plans. Similar to the Master Plans, impacts would be less than significant.

Geology and Soils

Similar to the proposed Master Plans, impacts related to seismic and geologic hazards and soil erosion or top soil loss would be less than significant under the Reduced Project Alternative with

implementation of standard construction measures and compliance with existing regulations. Similar to the proposed Master Plans, impacts related to septic systems would be less than significant.

Greenhouse Gas Emissions

Under the Reduced Footprint Alternative, less construction would take place; therefore, construction would result in fewer GHG emissions compared to the Master Plans. Additionally, the removal of Recycled Water CIP projects P80 and P81 would result in a reduction in electricity demand compared to the Master Plans, and associated GHG emissions would be reduced. Therefore, GHG emissions under the Reduced Footprint Alternative would be reduced when compared to the Master Plans. Impacts would be less than significant, similar to the Master Plans.

Hazards and Hazardous Materials

Similar to the proposed Master Plans, impacts related to transport, use, disposal, and accidental releases of hazardous materials; hazardous materials sites; emergency response and evacuations plans; and wildland would be less than significant with implementation of the project design features described in Section 2.6.2. Aircraft hazards would be less than significant, similar to the proposed Master Plans.

Hydrology and Water Quality

The Reduced Project Alternative would result in slightly reduced impacts related to water quality, alteration of drainage patterns, mudflows, dam inundations, tsunamis, and seiches because several above-ground features would not be constructed under this alternative (Sewer CIP Projects SR-19, SR-22, and SR-23). Impacts would be less than significant, similar to the Master Plans. Impacts related to flood hazard areas and groundwater would be less than significant, similar to the proposed Master Plans.

Land Use

The Reduced Footprint Alternative would result in similar impacts (less than significant) compared to the proposed Master Plans related to land use incompatibility, conflicts with land use plans, and physical divisions of established communities.

Noise

Less than significant permanent increases in ambient noise would be slightly reduced compared to the Master Plans under this alternative because Recycled Water Master Plan CIP Projects P80 and P81 would not be constructed. Less than significant temporary noise impacts from construction would also be slightly reduced compared to the Master Plans because construction would be reduced. Less than significant groundborne vibration impacts also would be slightly reduced compared to the Master Plans because Sewer CIP Projects SR-3 and SR-24, Water CIP Project 55, and Recycled Water CIP Project ES8 would not be constructed. Aircraft noise impacts would be less than significant, similar to the proposed Master Plans.

Traffic

Similar to the proposed Master Plans, implementation of a traffic control plan would ensure that construction of the proposed CIP projects under the Reduced Footprint Alternative would not interfere with the circulation network. Impacts related to traffic and level of service standards, air traffic, traffic

hazards, alternative transportation, and emergency access would be less than significant, similar to the proposed Master Plans.

Ability to Accomplish Objectives of Master Plans

The Reduced Footprint Alternative would meet one of the two Sewer Master Plan objectives. This alternative would include a capacity analysis of existing and future sewer collection, but would not recommend a long-term CIP to meet future demand because facilities required to meet future demand would be eliminated under this alternative. The Reduced Footprint Alternative would not fully meet any of the three objectives for the Water Master Plan. This alternative would partially meet two objectives, but would not meet the third objective. This alternative would partially address currently water supply issues and would evaluate future demands, but would not meet future demand or recommend a CIP for continued reliable water service through service area buildout. The Reduced Footprint Alternative would partially meet one of the four Recycled Water Master Plan Objectives, and would not meet the remaining three. This alternative would find cost effective expansion opportunities, but not to the extent of the proposed Recycled Water Master Plan. This alternative would not maximize recycled water use, optimize the existing and future system configuration, or identify CIP projects to meet future recycled water demand.

6.3 Future Alternative Analysis

The Master Plans were developed using the best available information on population growth; proposed, planned, and forecast growth and development; means of effluent disposal; requirements and recommendations for peak flows, volumes, and facility capacities; and other factors affecting future City and CMWD sewer, water, and recycled water planning. The planning period for the Master Plans is long-term, extending to 2035, and almost all the factors in such long-range planning are to some degree uncertain. Land use plan changes could occur in the interim between when a CIP project is planned and when it is constructed, based on how buildout of the service areas proceeds. Thus, City and CMWD staff will continue to monitor factors likely to affect land use in the service areas and identify changes that could affect the forecasts and assumptions used to develop the improvement programs in the Master Plans.

Many of the CIP projects in the Master Plans either upgrade or otherwise modify existing facilities. In such cases, the location of the project is usually fixed. Nonetheless, adjustments are possible because the Master Plans are guiding documents rather than rigid templates.

Flexibility in the implementation of the Master Plans would occur at a specific CIP project level. Partly as a result of the mitigation program in this Program EIR, evaluation of the individual projects in the Master Plans can occur at the stage of project approval or implementation. Given the speculative and to some degree uncertain nature of future conditions, this process is the only practical way to assure that feasible alternatives to each project, if desirable or necessary, are developed. As an example, if development plans approved for a given area change the street pattern in that area, the location of pipelines projected in the Master Plans may change. If density or type of development in a given area changes, the pipeline configuration or capacity needed to serve that area, and thus the pipeline alignment, may change. Individual project review in the planning stage is the only time an informed decision on such matters can occur.

6.4 Environmentally Superior Alternative

CEQA Guidelines Section 15126.6(e)(2) requires that an EIR identify the environmentally superior alternative among the alternatives that are evaluated. The No Project Alternative assumes that none of the proposed CIP projects would be constructed at this time, and would therefore avoid all potentially significant environmental impacts identified for the Master Plans. However, this alternative would not preclude implementation of some, if not all, of the CIP projects on an individual basis sometime in the future. Although future infrastructure projects would still be required to undergo individual environmental review, the impacts would be evaluated on a project-by-project basis and the potential cumulative impacts associated with all of the CIP projects within the Master Plans may not be addressed adequately. In other words, cumulative environmental impacts could potentially be addressed in a piece-meal manner, which may result in under-estimating the total extent of cumulative environmental impacts in comparison to evaluating all three of the Master Plans at the Program EIR level. In addition, this approach restricts the City's and CMWD's ability to properly plan for projected growth and to design infrastructure accordingly. So while new and upgraded infrastructure projects would still occur under this alternative, they would be implemented in a more disorganized, less efficient, and likely more costly manner. In addition, this alternative would not meet any of the objectives of the Master Plans.

CEQA Guidelines Section 15126.6(e)(2) also requires that an EIR identify another alternative as environmentally superior, besides the No Project Alternative. In this case, the next environmentally superior alternative would be the Reduced Footprint Alternative, which would reduce, but not eliminate, potential impacts to biological resources, cultural resources, and paleontological resources. However, this alternative would only achieve one of the nine project objectives of the Master Plans, and would only partially meet three others. This project would not ensure that sewer, water, and recycled water facilities would be adequately sized for future sewer, water, and recycled water demand. Water demand and wastewater generation in the City and CMWD service areas will continue to grow regardless of Master Plan implementation; therefore, this alternative would hinder the City and CMWD from being able to meet future demand.